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Supreme Court, U.S.
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In The Supreme Court of the United States

HALIA S. MARSH,
Executrix of the Estate of Robert Sidney Marsh;
THEODORE C. McLEOD
Executor of the Estate of Beulah McLeod;
THOMAS R. SPEER,

Petitioners,

v.

W. R. GRACE & COMPANY;
FRIT INDUSTRIES, INCORPORATED;
CONTINENTAL CASUALTY COMPANY,

Respondents.

On Petition for Writ of Certiorari
to the United States Court of Appeals
for the Fourth Circuit

SUPPLEMENTAL APPENDIX

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IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

HALIA S. MARSH, Executrix of the
ESTATE of ROBERT SIDNEY MARSH,
Plaintiff,

v. 3:90CV00613

W.R. GRACE & CO., et al.,
Defendants.

THEODORE MCLOUD, Executor of the
ESTATE of BEULAH M. MCLOUD,
Plaintiff,

v. 3:91CV00047

W.R. GRACE & CO., et al.,
Defendants.

THOMAS R. SPEER,
Plaintiff,

v. 3:91CV00048

W.R. GRACE & CO., et al.,
Defendants.

JUDGMENT

For the reasons described in the Memorandum Opinion filed contemporaneously with this Judgment, Defendants' motions for summary judgment in each of the above-captioned cases are hereby GRANTED. Any remaining motions are DENIED as MOOT.

This the 26th day of May, 1998.

/s/
United States District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

HALIA S. MARSH, Executrix of the
ESTATE of ROBERT SIDNEY MARSH,
Plaintiff,

v. 3:90CV00613

W.R. GRACE & CO., et al.,
Defendants.

THEODORE MCLOUD, Executor of the
ESTATE of BEULAH M. MCLOUD,
Plaintiff,

v. 3:91CV00047

W.R. GRACE & CO., et al.,
Defendants.

THOMAS R. SPEER,
Plaintiff,

v. 3:91CV00048

W.R. GRACE & CO., et al.,
Defendants.

MEMORANDUM OPINION

TILLEY, District Judge

These related cases are before the Court on a number of motions, including motions to dismiss, motions in limine, and motions for summary judgment. Defendants' motions for summary judgment in each of these cases are GRANTED for the reasons described below. Any remaining motions are DENIED as MOOT.

I.

The plaintiffs in this case are all residents of Moore County, North Carolina. Robert Sidney Marsh and Thomas Speer, Mr. Marsh's brother-in-law, both worked on the farm belonging to Waymon Marsh, Robert Marsh's son. Beulah S. McLeod worked with her husband, Theodore McLeod on their farm.[1] Defendant W.R. Grace & Co. ("Grace") is a Connecticut corporation with its principal place of business outside of North Carolina. Defendant Frit Industries, Inc. ("Frit") is incorporated in and has its principal place of business in Alabama. Defendant Continental Casualty Company ("CCC") is incorporated in and has its principal place of business in Illinois.

Construed in the light most favorable to Plaintiffs, the facts are as follows: In 1984, Waymon Marsh and Theodore McLeod purchased tobacco fertilizer manufactured by Grace called "Gold Dollar" fertilizer. Frit produced a micronutrient mix used by Grace as an ingredient in Gold Dollar fertilizer,

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[1]For simplicity, this Opinion will refer to Mr. Robert Marsh, Mr. Speer and Mrs. Mcleod as "Plaintiffs," despite the fact that it is actually the estates of Mr. Marsh and Mrs. McLeod that have brought suit.

while CCC insured Grace. Unbeknownst to Mr. Waymon Marsh, Mr. Mcleod, or Plaintiffs, the Gold Dollar fertilizer they purchased contained small amounts of picloram, a broadleaf herbicide.

The Gold Dollar fertilizer was applied to tobacco crops and to vegetable gardens on both the Marsh and McLeod farms in 1984. From that year on, Plaintiffs were exposed to picloram in the fertilizer by handling it, through contact with soil and water contaminated by the fertilizer, and by eating vegetables from the gardens to which it had been applied and fish from a pond contaminated by fertilizer run-off.

Within the next four years, Plaintiffs all suffered from some form of cancer. Robert Marsh was diagnosed with lung cancer in early October of 1988, and he died from complications of the disease approximately two weeks later, at the age of 78. Thomas Speer was diagnosed with colorectal cancer in March of 1988 but was successfully treated for the disease. He was 65 at the time. Beulah McLeod was diagnosed with cervical cancer in late August or early September of 1986 and died from the disease approximately two years later, at the age of 74.[2]

II.

Plaintiffs have made claims against Defendants, including breach of warranty, civil conspiracy, failure to warn, negligent manufacture of fertilizer, and unfair

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[2]In another suit since dismissed by the North Carolina state courts, Mr. Waymon Marsh claimed that his irritable bowel syndrome was aggravated after he was exposed to picloram in Gold Dollar fertilizer.

settlement practices, all based on the presence of picloram in the Gold Dollar fertilizer. The damages alleged for each claim arise from the cancers suffered by Mr. Marsh, Mr. Speer, and Mrs. McLeod. Therefore, none of these claims can succeed unless Plaintiffs can prove that their cancers were proximately caused by picloram in the fertilizer. Because Plaintiffs cannot prove such a connection, summary judgment for Defendants on all claims is appropriate. No ruling is necessary on any of Defendants' other arguments in favor of summary judgment.

Summary judgment is proper only if there is no genuine issue as to any material fact. The party moving for summary judgment has the burden of: (1) pointing to deficiencies in the record as to matters upon which the opposing party has the burden of proof such that the opposing party cannot prove its claim or defense, or; (2) showing otherwise why, upon the undisputed facts in the record, the moving party is entitled to judgment as a matter of law. The party opposing the motion for summary judgment may not merely rest on its pleadings, but must provide evidence or point to evidence already in the record, properly authenticated pursuant to Rule 56(e), that would be sufficient to support a jury verdict in its favor. See Fed. R. Civ. P. 56(e); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 250 (1986); Orsi v. Kirkwood, 999 F.2d 86, 92 (4th Cir. 1993). The test to be applied in determining sufficiency of the evidence on the questioned point, therefore, mirrors that applied at the directed verdict (now "judgment as a matter of law") stage of a trial. See Herold v. Hajoca Corp., 864 F.2d 317, 319 (4th Cir. 1988), cert. denied, 490 U.S. 1107 (1989).

In this case, Plaintiffs' only evidence concerning the causal link between picloram exposure and their cancers comes from the deposition testimony and affidavits

submitted by their proffered expert, Dr. Alan S. Levin, M.D. Dr. Levin's testimony lacks sufficient indicia of scientific validity and is therefore inadmissable under Federal Rule of Evidence 702. Without his testimony, the record is deficient with respect to Plaintiffs' ability to prove causation.

The admissibility of expert scientific testimony is governed by Rule 702, which provides:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

Fed. R. Evid. 702. This rule requires a trial judge to determine "whether the reasoning or methodology underlying the testimony is scientifically valid and... whether that reasoning or methodology properly can be applied to the facts in issue." Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 592-93, 113 S. Ct. 2786, 2796, 125 L. Ed.2d 469 (1993); see also Cavallo v. Star Enter., 100 F.3d 1150, 1158 (4th Cir. 1996) (quoting Daubert). The validity of the reasoning or methodology underlying the testimony is generally determined by five factors:

> (1) whether the testimony has been tested, (2) whether it has been published or exposed to peer review, (3) its rate of error, (4) whether there are standards and controls over its implementation, and (5) whether it is generally accepted.

Cavallo, 100 F.3d at 1158 (citing Daubert). If the testimony is valid, whether the testimony "properly can be applied to the facts in issue" is determined by reference to other rules of evidence, including Rules 401 and 403. Cavallo, 100 F.3d at 1158.

Dr. Levins's testimony fails the first part of the Daubert inquiry. Neither his reasoning nor his methodology is scientifically valid; they satisfy none of the applicable factors suggested in Daubert. Despite the fact that each Plaintiff suffered from a different type of cancer, Dr. Levin's testimony concerning the link between picloram exposure and cancer is basically the same for each Plaintiff. In each case, his analysis focuses on the temporal link between exposure to picloram and the onset of the cancers. He describes his analytical process several times, slightly differently each time, but the following description is representative:

> I looked at a group of individuals who were exposed to a known carcinogen. I looked at laboratory results in two of them.[3] I looked at the history around the development of the disease process. I looked at the temporal association between the exposure and the development of the disease process. And I know that — and I also looked in the literature to see whether picloram could have done what happened to these patients. And with all that data I made the opinion that picloram caused the disease in

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[3]One of the individuals referred to here is Mr. Waymon Marsh, who is not a plaintiff in this case.

these individuals.

(Levin Dep. at 414; see also id. at 245, 311.) His underlying theory of disease is that:

> all disease is a function of the host, not of the etiologic agents, and if the host is set up to get cancer, the the etiological agent can get [sic] cancer. Then on the other hand if the host is set up to get lupus, then the etiological agent can cause lupus.

(Id. at 285.) This theory purportedly accounts for the different cancers which Dr. Levin opines were caused by picloram exposure.

Dr. Levin's testimony that picloram caused Plaintiffs' cancers fails the first factor identified by Daubert, that his theory be subject to testing. See Cavallo, 100 F.3d at 1158. Scientific methodology is based on generating hypothesis and then testing them to see if they can be falsified. See Daubert, 509 U.S. at 593, 113 S. Ct. at 2796. Dr. Levin's diagnosis is based on a process that is nearly opposite to the scientific method, one in which he reached a conclusion and then generated, but did not test, hypothesis to support his conclusion. Cf. Sornesen ex rel. Dunbar v. Shaklee Corp., 31 F.3d 638, 649 (8th Cir. 1994) ("Instead of reasoning from known facts to reach a conclusion, the experts here reasoned from an end result in order to hypothesize what needed to be known but was not."); Claar v. Burlington N. R.R., 29 F.3d 499, 502-503 (9th Cir. 1994) ("Coming to a firm conclusion first and then doing research to support it is the antithesis of [the scientific] method." The following testimony serves as an example:

> Q. Are you telling me, Dr. Levin, that with respect to each of the cancers we're dealing with, Mr. Speer's colorectal cancer, Mr. Marsh's lung cancer, and Mrs. McLeod's cervical cancer, that because it is your opinion that it was caused by picloram, it therefore follows that their first manifestation was at a sufficient point in time after exposure to be within a temporal time frame that is acceptable to you?
>
> A. I think that's what I'm saying.

(Levin Dep. at 411) Other examples of this kind of tautological reasoning abound in his opinion. (See, e.g., id. at 323 (testimony that picloram is a carcinogen because Mr. Speer was exposed to it before he got cancer), 346 (same testimony).) Dr. Levin did not conduct any objective tests that support his self-fulfilling hypothesis.

One way to test a hypothesis is to rule out alternative causes. See Benedi v. McNeil-P.P.C., Inc., 66 F.3d 1378, 1384 (1995); Claar, 29 F.3d at 502; Martin v. Diamant Boart Am., Inc., 114 F.3d 1176, 1997 WL 286123, *2 (4th Cir. 1997). Dr. Levin specifically testified that he did not attempt to rule out alternative causes for Plaintiffs' cancers. (See Levin Dep. at 341 ("Alternative causes? I don't know that I ruled anything out. I opined that picloram was a or the cause of the cancer. But I didn't rule out other etiology.")) He does not know what other pesticides, herbicides or fertilizers Mr. Marsh used on the farm, and he did not find out if any of those other substances were carcinogens. (See id. at 231-32.) Dr. Levin also has no opinion as to whether Mr. Marsh's 52 years of cigarette smoking was a cause of his lung cancer.

(See id. at 535.)[4] Dr. Levin did not ask for names of the carcinogenic organic solvents and other chemicals Mr. Speer used during his 31 years as an auto body shop employee, nor did he ask about other pesticides, herbicides, or fertilizers to which Mr. Speer was exposed while farming. (See id. at 219-22.) Dr. Levin even maintains that he does not need to know how many other carcinogens Mr. Speer was exposed to for the purposes of formulating his opinion. (See id. at 336-37.) Neither Dr. Levin's deposition nor his affidavits contain any description of a process whereby he eliminated alternative causes for Mrs. McLeod's cancer, either.

The only evidence Dr. Levin appears to have considered with respect to alternative causes is an autoimmune test on which Mr. Speer and Mr. Waymon Marsh both had elevated levels of smooth muscle antibodies. Dr. Levin interpreted these results as evidence that changes in Mr. Speer's blood were more likely caused by something to which they had both been exposed, the fertilizer, rather than something to which only Mr. Speer had been exposed. (See id. at 335.) Given the myriad of potential carcinogens to which Plaintiffs were exposed, this is not a sufficient examination of possible alternative causes.

Another way to test a medical hypothesis is by using

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[4]In a supplemental affidavit filed after his deposition, Dr. Levin has suggested for the first time that Mr. Marsh's lung cancer was a type not linked to smoking. (Levin Aff. Nov. 1994 at 3.) A court is not required to consider a witness's subsequent affidavit which directly contradicts the witness's prior deposition testimony. See Rohrbough v. Wyeth Labs. Inc., 916 F.2d 970, 976 (4th Cir. 1990). Even taking this suggestion into consideration, however, Dr. Levin's opinion is still insufficiently tested.

lab or pathology data. Blood and/or tissue samples can be examined to see if they display phenomena predicted by or consistent with the hypothesis. See Benedi, 66 F.3d at 1378. Dr. Levin made no predictions and analyzed no blood or tissue samples from Mr. Marsh or Mrs. McLeod. For Mr. Speer, the only lab test on which he relied was the one which showed elevated levels of smooth muscle antibodies. (See Levin Dep. at 335.) This test, however, does not indicate what substance caused the elevated antibody level. (See id. at 617) Furthermore, Dr. Levin admitted that a person who had already had cancer at the time of testing, like Mr. Speer, would usually have test results outside the normal range. (See id.) There was therefore no laboratory analysis against which Dr. Levin's hypothesis was tested with respect to any of the Plaintiffs. See Conde v. Velsicol Chem. Corp., 24 F.3d 809, 813 (6th Cir. 1994)(rejecting testimony concerning autoimmune test results that could not be linked to the chemical at issue).

While the failure of Dr. Levin's testimony to satisfy the first Daubert factor is sufficient grounds to support its exclusion, his testimony fails the second factor identified in Daubert as well. The second Daubert factor is whether a theory has been subjected to publication and the accompanying process of peer review. See Cavallo, 100 F.3d at 1158. Dr. Levin has not conducted or published any studies concerning whether picloram is a carcinogen. He has published two studies dealing with his more general etiological theory of cancers caused by chemical exposure, (see id. at 48), but this is an insufficient ground on which to find his testimony valid with respect to picloram as a carcinogen, especially given the lack of general acceptance of his theory. See infra.

The third Daubert factor, the known or potential rate

of error of a particular scientific technique, see Cavello, 100 F.3D at 1158, is not directly relevant in this case becuase Dr. Levin did not use a technique with a measurable rate of error. However, Dr. Levin's untested assumptions regarding the amounts of picloram to which Plaintiffs were exposed create a potential for error that cannot be ignored when evaluating his testimony. Moreover, although he believes that there is a no-effect level of picloram for each of the Plaintiffs, he made no attempt to calculate that level for any of them. (See Levin Dep. at 286-87)

The other applicable factor identified by Daubert is whether a theory is generally accepted in the scientific community. See Cavello, 100 F.3d at 1158. Both Dr. Levin's opinion and the method through which he formulated it are at odds with principles generally accepted in the scientific community. In formulating his opinion, the first step he took was to perform an electronic database search "to satisfy [him]self that picloram could cause cancer." (See Levin Dep. at 199.) However, Dr. Levin read the full text of only two of the articles on which he purportedly based his opinion that picloram is a carcinogen; he read only the abstracts of the others. (See id. at 248-49) Only one of the articles that he actually read concluded that picloram was a carcinogen. (See id. at 186, 244.) Dr. Levin disclaims the need to read the entire text of such studies because he never relies on them but uses them only as "helpful guidelines." (See id. at 249-52.) Dr. Levin also claims that, in some cases, he can diagnose biological response modification system dysfunction, a condition he believes was a precursor to cancer in all of the Plaintiffs, on the basis of a medical history alone. (See id. at 444-45.) The cavalier approach taken in reaching these conclusions is inconsistent with good science. It also suggests that the rest

of Dr. Levin's analysis is similar.

Dr. Levin's conclusion that picloram is a carcinogen is also not generally accepted. It is undisputed that the only human epidemiological study concerning picloram concluded that there was no increased incidence of or mortality from cancer in people who had been regularly exposed to picloram, (See e.g., Joint Aff. App. B), although Dr. Levin dismisses this study as a "classic in fallacious epidemiological studies." (Levin Dep. at 244.) It is also undisputed that neither the National Toxicology Program nor the United States Environmental Protection Association has ever considered picloram a carcinogen. (See e.g., Joint Aff. App. B at B-7) Dr. Levin "Satisfied himself that picloram could cause cancer" by reading one article and the abstracts of two others which he says concluded that picloram was a carcinogen. (See Levin Dep. at 183-192.) There is no dispute, however, regarding Defendants' evidence that the one article Dr. Levin actually read, a study by Reuber et al., has been rejected by the general scientific community, (See Joint Aff. App. H at H-3-4), or regarding their evidence that the full text of the two abstracts on which Dr. Levin relied do not support the conclusion that picloram is a carcinogen. (See id. at H-4-6.)

Finally, it is undisputed that Dr. Levin's opinion that picloram in the dosages he assumes were received by Plaintiffs could have caused their cancers is not generally accepted. In the two generally accepted studies designed to test if picloram was an animal carcinogen, animals exposed to one million times more picloram did not contract cancer. (See id. at H-6.) It is clear that Dr. Levin's methodology and the conclusions he has drawn from it are not generally accepted within the scientific community.

In summary, Dr. Levin's testimony simply does not

have any indicia of scientific validity. His opinion that picloram caused Plaintiffs' cancers is untested, has not been subjected to peer review, is error-prone, and is not generally accepted. Even the "liberal thrust" of the Federal Rules cannot encompass "scientific" testimony that has such an unreliable foundation in the methods of science. Daubert, 509 U.S. at 588, 113 S. Ct. at 2794.

III.

For the foregoing reasons, Defendants' various motions for summary judgment are GRANTED. Defendants' other motions are DISMISSED as MOOT.

This the 26th day of May, 1998

_____/s/_____
United States District Judge